LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-49. (Canceled)

50. (New) An optical-spectrum flattening method characterized by comprising:

a first step of obtaining a discrete spectrum of a mode spacing Δf using an output light obtained by modulating an amplitude or phase of a continuous wave (CW) output from a single-wavelength light source using a repetition frequency Δf, or an output light output from a pulse light source or an optical pulse output circuit for outputting a pulsed light of the repetition frequency Δf; and

a second step of modulating said discrete spectrum of the mode spacing Δf by frequency Ω when a band of said discrete spectrum is 2fm.

51. (New) An optical-spectrum flattening method according to claim 50, characterized in that:

the repetition frequency Δf and a light of a pulse width (full width at half maximum) t0 have a relationship $t0 \ll (1/\Delta f)$, the pulse width (full width at half maximum) of a light pulse is expanded.

52. (New) An optical-spectrum flattening method according to claim 51, characterized in that:

the pulse width (full width at half maximum) of a light pulse is expanded using a dispersive medium.

53. (New) An optical-spectrum flattening method according to claim 50, characterized in that:

during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

54. (New) An optical-spectrum flattening method according to claim 53, characterized in that:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

55. (New) An optical-spectrum flattening method according to claim 54, characterized in that:

the signal voltage from said oscillator is a sinusoidal wave.

56. (New) An optical spectrum flattening method according to claim 54, characterized in that:

if a phase modulator is used during said second step, a frequency shift of said discrete spectrum is regulated by varying a modulation index.

57. (New) An optical-spectrum flattening method according to claim 54, characterized in that:

the frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to varying a modulated frequency thereof.

58. (New) An optical-spectrum flattening method according to claim 54, characterized in that:

during said second step, level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

59. (New) An optical-spectrum flattening method according to claim 53, characterized in that:

a combination of a modulator A for modulating the amplitude or phase of said continuous wave (CW) output from said single-wavelength light source and a modulator B for modulating an amplitude or phase of a modulated wave from the modulator A is used in all cases.

60. (New) An optical-spectrum flattening apparatus characterized by comprising:

first means for obtaining a discrete spectrum of a mode spacing Δf using an output light obtained by modulating an amplitude or phase of a continuous wave (CW) output from a single wavelength light source using a repetition frequency Δf, or an output light output from a pulse light source or an optical pulse output circuit for outputting a pulsed light of the repetition frequency Δf; and

second means for modulating said discrete spectrum of the mode spacing Δf with a frequency Ω, while $\Omega < 2fm$, when a band of said discrete spectrum is 2fm.

61. (New) An optical-spectrum flattening apparatus according to claim 60, characterized in that:

the repetition frequency Δf and a light of a pulse width (full width at half maximum) t0 have a relationship $t0 \ll (1/\Delta f)$, the pulse width (full width at half maximum) of a light pulse is expanded.

62. (New) An optical-spectrum flattening method according to claim 51, characterized in that:

during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

63. (New) An optical-spectrum flattening method according to claim 52, characterized in that:

during said second step, a modulator is used which modulates an amplitude or phase of a temporal waveform composed of said discrete optical spectrum.

64. (New) An optical-spectrum flattening method according to claim 62, characterized in that:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

65. (New) An optical-spectrum flattening method according to claim 63, characterized in that:

said modulator for modulating the amplitude or phase is driven by a signal voltage output from an oscillator at a particular frequency.

66. (New) An optical-spectrum flattening method according to claim 64, characterized in that:

the signal voltage from said oscillator is a sinusoidal wave.

67. (New) An optical-spectrum flattening method according to claim 65, characterized in that:

the signal voltage from said oscillator is a sinusoidal wave.

68. (New) An optical-spectrum flattening method according to claim 64, characterized in that:

if a phase modulator is used during said second step, a frequency shift of said discrete spectrum is regulated by varying a modulation index.

69. (New) An optical-spectrum flattening method according to claim 65, characterized in that:

if a phase modulator is used during said second step, a frequency shift of said discrete spectrum is regulated by varying a modulation index.

70. (New) An optical-spectrum flattening method according to claim 65, characterized in that:

the frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to varying a modulated frequency thereof.

71. (New) An optical-spectrum flattening method according to claim 65, characterized in that:

the frequency shift of said discrete spectrum is regulated by causing a multiplier or a divider to multiply or divide an output signal from the oscillator to varying a modulated frequency thereof.

72. (New) An optical-spectrum flattening method according to claim 64, characterized in that:

during said second step, level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

73. (New) An optical-spectrum flattening method according to claim 65, characterized in that:

during said second step, level deviations among modes are regulated by causing the phase modulator to shift a phase of a modulating signal for driving the modulator.

74. (New) An optical-spectrum flattening method according to claim 62, characterized in that:

a combination of a modulator A for modulating the amplitude or phase of said continuous wave (CW) output from said single-wavelength light source and a modulator B for modulating an amplitude or phase of a modulated wave from the modulator A is used in all cases.

75. (New) An optical-spectrum flattening method according to claim 63, characterized in that:

a combination of a modulator A for modulating the amplitude or phase of said continuous wave (CW) output from said single-wavelength light source and a modulator B for modulating an amplitude or phase of a modulated wave from the modulator A is used in all cases.